
FIN170 INTERNATIONAL FINANCE

TO: DR. SUH
FROM: BRIE SLEZINGER
SUBJECT: TERM PAPER ARTICLE SUMMARY #1
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Bitcoin as Money

The article titled *Bitcoin as Money?* written by Stephanie Lo and J. Christina Wang examine the viability of Bitcoin becoming a mainstream currency by examining the primary aspects of a currency; medium of exchange, store of value, and unit of account. Within this analysis, the authors concluded that Bitcoin prices offer a slight discount on similar goods in comparison paying in terms of U.S. dollars. Lo and Wang assess the viability of Bitcoin being used as a normal currency using the three primary aspects of a currency system; medium of exchange, store of value, and unit of account. All three characteristics were looked at within a modern-day context by comparing the benefits and difficulties Bitcoin would face, if implemented today. In order to assess Bitcoin's useable as a medium of exchange, the authors collected daily Bitcoin (BTC) and USD prices of a Kingston flash drive and an iPhone 5C case from Overstock and TigerDirect on May 9th through June 3rd, 2014.

The two websites had been accepting payments using Bitcoins for a few months, and the two products were selected due to easily identified, similar characteristics. Bitcoin prices were only given at check out and updated every 10 minutes on Overstock and 15 minutes on TigerDirect. A regression analysis was used to analyze the potential discounts/premium of the prices in BTC relative to the USD price. The "markup" being analyzed was calculated by converted the BTC price collected to a USD price, minus the USD price as quoted, and then dividing the number by the quoted USD price. BTC/USD exchange rates were taken from an exchange and the markup was calculated by using both the average exchange rate within 1 minute of the quote time and over 15 minutes. The authors do make note of the small sample size used and that bitcoin prices generally rose over the course of the test, potentially creating a bias within the study.

The study within the article looks specifically at the differences in value or "markup" between bitcoin and dollar prices between two similar goods on two different sites. According to the data collected, the markups were close to zero in terms of actual dollars. As a percentage of the USD listing price, the one-minute spot rate recorded a 0.86 percentage point *discount*, while the 15-minute average quote produced a 0.16 percentage point discount. This difference is not material when translated into USD. A regression test revealed that a higher volatility within Bitcoin prices creates a larger discount on bitcoin purchases. The test is 99% significant with a coefficient of -0.415 for the 15-min SD of price. See Exhibits 1, 2 & 3 in the Appendix.

The results of the study conclude that retailers who allow customers to pay for their purchases through Bitcoin do not offer a premium, but may in fact, offer a discount. The authors state that the results insinuate that retail businesses believe that they are earning just as much revenue on purchases on Bitcoins, when compared to those made using USDs. This may stem from the tradeoff between eliminating credit card fees opposed to the increase in volatility of using BTC. Further, retailers could choose to charge customers a slight premium for the increase in risk, but choose not to. This could be because they want to continue to attract those who use Bitcoins as a payment method in the future, potentially as way to draw new customers or reinforce aspects of their current operations. Using Bitcoin

as payment does bring up the challenge of how to deal with returns of Bitcoins. Firms are addressing this by allowing shoppers to redeem items for store credit, but highlight a major impediment to the implementation of Bitcoin on a complete online scale. Further research is needed on a large scale.

Appendix

Exhibit 1: Determinants of retailer bitcoin markup regression results.

VARIABLES	(1) 15-minute-markup	(2) spot-markup
15-min SD of price	-0.415*** (0.0976)	-0.452*** (0.0960)
15-min change in price	-0.234 (1.453)	1.977 (1.533)
Constant	0.156 (0.237)	-0.0929 (0.249)
Observations	60	60
R-squared	0.184	0.279

Note: Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Exhibit 2: Price markups on Overstock.com

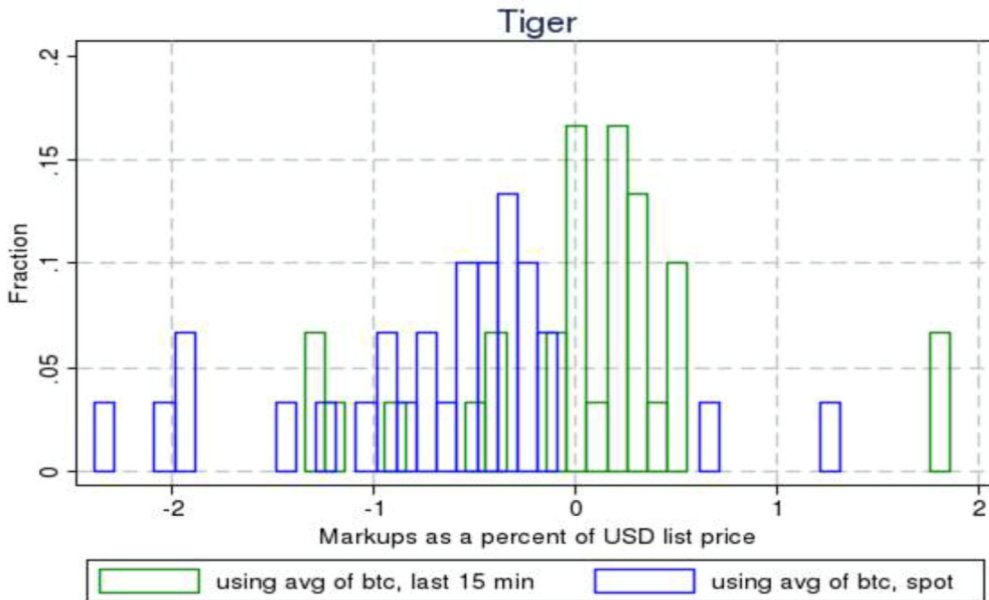


Exhibit 3: Price markups on TigerDiret.com

